

A photograph of a male teacher with a mustache and glasses, wearing a dark blue sweatshirt with 'TECH' on it, leaning over a wooden table. Three students are working on a robot. The student on the left is a young man with dark hair, wearing a blue t-shirt with a Nike logo, using a screwdriver. The student in the middle is a young man with glasses and a grey t-shirt, smiling. The student on the right is a young man with red hair, wearing a dark blue t-shirt. They are all looking at the camera. The robot is a custom-built vehicle with a metal frame, a large black wheel, and a smaller white wheel. It has various electronic components and wires attached to it. The background is a blurred classroom setting with red walls and computer monitors.

Indiana Career Majors in Action

Building  Our Future

**An implementation guide
for administrators,
principals, and teachers**

Building Our Future

Indiana Career Majors

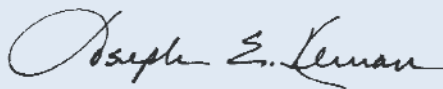
As educators, you know that learning through relevant experiences, coupled with rigorous academic standards, lay the foundation for a student's successful future. You also know that giving students and their parents the information they need to make important decisions about their future is vital to that success.

That is one reason why you are receiving this copy of **Career Majors in Action**. As you will see, it contains

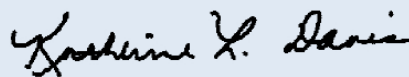
suggestions that will help you engage students in learning by creating curricula and new learning experiences that provide a meaningful context for students' work across both academic and technical disciplines. Career majors help students understand why a good education is important and creates a link between the classroom and a career by encouraging young learners to look beyond coursework into the future.

Please take a few minutes to read through this publication and discover how to implement career majors and the benefits of creating links between your students' education and their potential careers. Our children are our most precious resource, and this is one more way we can make sure every child has the opportunity to succeed.

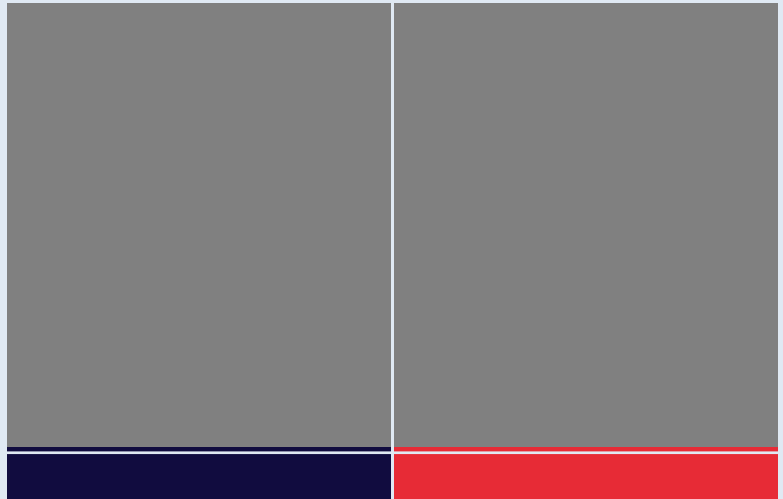
Thank you.



Governor Joseph E. Kernan



Lt. Governor Kathy Davis



Students across Indiana are embarking on journeys in education. These young adventurers are finding rigor and relevance in their education by declaring career majors, drawing up education and career plans, finding work-based learning opportunities, and plotting postsecondary education that will enable them to build successful, satisfying futures. Career majors systems engage students in rigorous studies and help them make the connection between what they are learning in school and what they want out of life.

Career Majors in Action is an educators' guide to setting up career majors systems that work for students. Read on to learn how to organize career majors, how to gather community support, how to capitalize on success—and how to get started.

Contents

Page 2

Indiana Career Majors in Action

Career majors give students the educational tools they need to build bright futures.

Page 4

Indiana's 14 Career Clusters

Page 6

Step 1: Practice First-Rate Leadership

Lead confidently and creatively to make career majors work.

Page 8

Step 2: Establish Productive Community Partnerships

Energize education with support from a broad base of community partners.

Page 10

Step 3: Seek Financial Support

Mount an organized, thorough, creative fund-raising effort to set up career majors.

Page 12

Step 4: Create Career-Oriented Curricula

Reorient curricula to prepare students for academic and career success.

Page 14

Step 5: Build a Career Guidance System

Reorganize guidance to drive career majors implementation.

Page 16

Step 6: Promote Professional Development

Organize resources to reorient faculty and staff to career majors systems.

Page 18

Step 7: Develop Extended Learning Opportunities

Give students a wide range of opportunities to learn outside the classroom.

Page 20

Step 8: Set Up Seamless Articulation

Negotiate agreements to smooth students' pathways to postsecondary education.

Page 22

Resource Roundup

Check these useful resources for information to help guide career major implementation.

Page 24

Glossary

Demystify the workings of career majors with these helpful definitions.

▼ Guided by teacher Robert Steele, these Pike High School students in Indianapolis are putting together a working model robot—and building futures that work for them and for us all. Read more on page 12.



Indiana Career Majors in Action

Career majors give students the educational tools they need to build bright futures.



An Eight-Step Career-Majors Action Plan

Career Majors in Action outlines how to set up a thriving career majors system. The following eight steps are a formula for making career majors work for students. Beginning on page 6, this guide shows how Indiana schools have moved to put these steps in action. The steps are:

- Step 1:** Practice First-Rate Leadership (page 6)
- Step 2:** Establish Productive Community Partnerships (page 8)
- Step 3:** Seek Financial Support (page 10)
- Step 4:** Create Career-Oriented Curricula (page 12)
- Step 5:** Build a Career Guidance System (page 14)
- Step 6:** Promote Professional Development (page 16)
- Step 7:** Develop Extended Learning Opportunities (page 18)
- Step 8:** Set Up Seamless Articulation (page 20)

Read more about each step and study examples of career majors in action on the pages indicated.

In 1999, the Indiana Department of Workforce Development began working with a handful of high schools across the state that were interested in adding rigor and relevance to their curriculum by creating career academies.

Academies help schools create thematic instruction by integrating academic and technical education. The smaller schools-within-a-school offer career-oriented instruction centered around a particular group of occupations. Students choose broad areas of study and explore them in the academies of their choice. The Indiana Career Majors initiative is setting up academies to give students the tools and the motivation they need for success in school and in life.

Indiana has already moved decisively to reconnect education with lifelong student success. Indiana's Education Roundtable, a standing community and government task force on education reform, is dedicated to increasing the number of high school students that complete more rigorous Core 40 and Academic Honors graduation requirements, and thus improve their chances for satisfying, rewarding employment.

In the same way, the Education Roundtable's P-16 Plan for Improving Student Achievement seeks to provide all Indiana children the academic foundations needed to build solid economic futures. The Roundtable believes this kind of success is possible only if Indiana's entire education system—from early childhood education through high school and college—is geared to preparing all students to achieve at high levels.

The Indiana Career Majors initiative supports this goal by connecting education with the world of work. The Department of Workforce Development has awarded grants to 20 schools for the planning of career academies to help students better realize the relevance of education to their lives and set to work building futures that match their aspirations. The Career Majors initiative opens the way for schools and districts

across the state to begin setting up programs that put students on the road to success. Key elements of a working career majors system include:

- A broad, multi-grade approach for fostering lifelong learning. A successful career majors system starts in the early grades and extends forward through postsecondary education and beyond (see "Indiana's Career Majors Model").

- Organized, well-defined career majors. Indiana recognizes 14 broad categories of career education and employment called "career clusters" (see "Indiana's 14 Career Clusters" on page 4). Career majors instruction is based on specific majors grouped under the 14 clusters.

- Career-oriented curricula. Indiana high schools are setting up career academies focused on groups of related majors (see "Create Career-Oriented Curricula," page 12). Students complete core academic courses taught in a career context, career major requirements, and elective courses.

- A system of individualized career major graduation plans. Students in the eighth grade pick a career major and draw up detailed plans for completing their career education. Plans are reviewed and updated once a year (see "Build a Career Guidance System," page 14).

- K–12 instruction aligned with postsecondary education and the workplace. Career majors systems that work make it easy for students to move on to postsecondary study and full-time employment. Articulation agreements between institutions at different educational levels create seamless pathways carrying students toward their career goals (see "Set Up Seamless Articulation," page 20).

Indiana's Career Majors Model

The Indiana Student Standards for Guidance prescribes these steps for progress through a career majors system.

Career Awareness (Grades K-5)	<p>Grades K-2</p> <ul style="list-style-type: none"> • Students discuss occupations held by adults in the community. • Students discuss the importance of attendance, punctuality, and doing one's best. <hr/> <p>Grades 3-5</p> <ul style="list-style-type: none"> • Students identify career interests using a career interest inventory. • Students list jobs that relate to their hobbies or leisure activities. 	
Career Exploration (Grades 6-8)	<p>Grade 6</p> <ul style="list-style-type: none"> • Students research specific occupations identified in their career plans. • Students develop systems for collecting information that will be helpful in writing resumes. <hr/> <p>Grade 7</p> <ul style="list-style-type: none"> • Students describe the Indiana Twenty-first Century Scholars program. • Students use personal, print, and electronic resources to discover occupations that match their career interests. • Students create resumes. <hr/> <p>Grade 8</p> <ul style="list-style-type: none"> • Students describe the requirements for the three high school diplomas (general, Core 40, and Academic Honors). • Students establish flexible career plans that include one or more career clusters they would like to explore in high school. • Students establish postsecondary education goals that support their career plans. • Students create flexible four-year high school course plans (including academic and career major courses). 	
Career Preparation (Grades 9-Postsecondary)	<p>Grade 9</p> <ul style="list-style-type: none"> • Students revise their resumes. • Students revise their career plans, postsecondary education plans, and four-year high school course plans as needed. <hr/> <p>Grade 10</p> <ul style="list-style-type: none"> • Students and counselors discuss the employment outlooks for the occupations they are interested in. • Students revise their resumes. • Students revise their career plans, postsecondary education plans, and four-year high school course plans as needed. <hr/> <p>Grade 11</p> <ul style="list-style-type: none"> • Students develop postsecondary transition plans (including campus exploration, admissions applications, and financial aid to be sought). • Students describe how to find and apply for merit-based and need-based financial aid. • Students revise their resumes. • Students revise their career plans, postsecondary education plans, and four-year high school course plans as needed. <hr/> <p>Grade 12</p> <ul style="list-style-type: none"> • Students revise their career plans, postsecondary education plans, and four-year high school course plans as needed. • Students revise their resumes. • Students implement their postsecondary transition plans. • Students earn their desired high school diploma. <hr/> <p>Postsecondary</p> <ul style="list-style-type: none"> • Students implement their postsecondary education plans. • Students obtain entry-level employment within their chosen career clusters. • Students continue to refine career choices throughout lifetimes of learning. 	

Indiana's Career Majors

Here are definitions and career occupations for Indiana's 14 career clusters, which are based on clusters developed by the U.S. Department of Education



Processing, production, distribution, financing, and development of agricultural commodities and natural resources

Career Opportunities

Farming • Fish and Wildlife Management • Food Processing/Production • Agricultural Services and Supplies • Animal Trainers • Garden and Landscape Services • Agricultural Food Sciences • Forest and Conservation Work/Science • Timber Harvesting



Organizing, directing, and evaluating functions essential to productive business operations

Career Opportunities

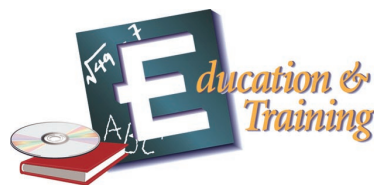
Food Service and Lodging Management • Public Administration • Medical Services Management • Business Management and Administration • Personnel Management • Accounting and Financial Management • Securities Sales • Health Unit Coordinating • Bookkeeping • Office Clerical • Data Entry • Banking Support Services • Computer Operation



Creating, exhibiting, performing, and publishing multimedia content

Career Opportunities

Arts and Crafts • Photography • Dramatic Arts and Theater/Video/Film • Music • Design • Interior Design • Architecture Group • Landscape Architect • Archival Science • Communications/Journalism/Broadcast • Multimedia Studies • Literature and Foreign Language • Liberal Arts and Humanities



Providing education and training services, as well as related learning support services

Career Opportunities

Educational Administration • Special Education • Elementary Education • Preschool Education • Instructional Design • Teaching Assisting • Adult and Continuing Education • Secondary and Vocational Education



Providing opportunities in the building trades environment

Career Opportunities

Bricklaying • Carpentry • Electrical Power • General Construction • Plumbing • Construction Equipment Operation • Painting/Paperhanging



Providing diagnostic and therapeutic services, health informatics, support services, and biotechnology research and development

Career Opportunities

Speech Pathology and Audiology • Dentistry • Physician Assisting • Medicine • Nursing • Optometry • Podiatry • Veterinary Medicine • Dental Hygiene • Cardiology • Laboratory Technology • Emergency Medical Technology • Nuclear Medical Technology • Radiological Technology • Occupational/Physical Therapy • Mental/Physical Health Assisting • Nurse Assisting • Pharmacology



Providing legal, public safety, protective, and homeland security services

Career Opportunities

Legal Services • Legal Assisting • Law Enforcement • Fire Safety • Security Services



Providing for families and serving human needs

Career Opportunities

Barbering/Cosmetology • Funeral Services • Child Care • Flight Attending • Laundry and Dry Cleaning • Housekeeping/Building Services • Food Service • Waiter/Waitress • Dietetics/Nutrition Baking • Chef • Meatcutting and Butchering



Processing materials into intermediate or final products

Career Opportunities

Photographic Processing • Printing • Desktop Publishing Equipment Operator • Welding • Metal Machining • Tool and Die Making • Metal Fabrication • Optical Technology • Quality Control/Inspection • Clothing Production • Home Furnishings • Power Plant Operation • Leather Work, Shoemaking, and Repair Woodworking



Performing engineering services, technical design, scientific inquiry, and information technology services

Career Opportunities

Agricultural Engineering • Aeronautical/Astronomical Engineering Chemical Engineering • Civil Engineering • Biological/Life Sciences • Medical Science • Physics/Astronomy • Computer Systems • Electrical and Electronics Engineering • Computer Engineering



Performing marketing activities to reach organizational objectives

Career Opportunities

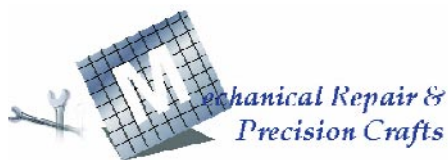
Marketing/Advertising/Public Relations • Real Estate • Fashion Merchandising • Sales • Food Marketing • Purchasing Insurance • Automobile Sales and Service



Providing social and recreational services

Career Opportunities

Urban/Regional Planning • Counseling • Psychology • Social Work • Recreation • Religion and Philosophy • Hospitality Services • Travel Services



Providing installation, repair, maintenance, and service to appliances, industrial equipment, and personal and commercial vehicles

Career Opportunities

Air Conditioning/Heating Installation and Repair • Appliance/Equipment Repair • Medical Equipment Repair • Building Maintenance • Automobile/Aircraft Mechanics



Managing movement of people, materials, and goods by road, pipeline, air, rail, and water

Career Opportunities

Truck and Bus Driving • Airplane Piloting • Air Traffic Control Water Transportation • Transportation Operations • Logistics Planning and Management Services • Warehousing and Distribution Center Operations • Transportation Systems/Infrastructure Planning, Management, and Regulation

Practice First-Rate Leadership

Lead confidently and creatively to make career majors work.



Action Items for Effective Leadership

- ☒ Involve staff in decision-making.
- ☒ Delegate responsibility.
- ☒ Seek business and community input.
- ☒ Be patient but persistent.
- ☒ Pay attention to details but stay focused on your larger, long-term goals.
- ☒ Be a visibly committed force for change.
- ☒ Learn from your mistakes.
- ☒ Take responsibility for the tough decisions.

Richard Kirchner, principal of 2,500-student Portage High School, is known for his leadership in implementing thriving career majors programs.

Portage, located at the tip of Lake Michigan, is a hotbed of career-oriented instruction, housing 12 of the 21 career education programs serving Porter County. Students from 12 area schools come to Portage for part of each day to receive career and technical education. An on-site medical clinic offering low-cost care to the entire community also provides invaluable hand-on experience for Portage health science students. Not surprisingly, Portage students enjoy high job placement rates at graduation.

Principal Kirchner believes that leadership has been important to the program's success. But, according to Kirchner, his is "leadership with a twist."

Lead by Inclusion, not Exclusion

"The most important leadership quality I've learned is the ability to share

◀ *Portage High School principal Richard Kirchner leads a thriving career majors effort that includes a fully operational medical clinic.*

power," says Kirchner. "Involving others in the major decisions may slow the process down, but it usually results in better decisions and buy-in by others."

Kirchner admits that as assistant principal, before landing the top job at Portage in 1992, he felt that decision-making should revolve around the principal.

"However, I had the benefit of being mentored by the wonderfully talented principal who preceded me in my current position," says Kirchner. "I saw how his open leadership style encouraged the best in his staff."

Kirchner says that this shared leadership approach has helped him draw teachers previously unconvinced of the benefits of career education into the planning process, and ultimately turn them into boosters of career majors.

"Teachers who had concerns about things like block scheduling and raising graduation requirements have come to support them, not because I told them what to think, but because as active participants in the planning and training processes they could clearly see the benefits for themselves. They made a personal commitment to the process," says Kirchner.

Involve the Community

Kirchner recognizes that encouraging community involvement in the implementation of career majors is as important as energizing the career majors team. Smart educational leaders reach out early to the local community—business leaders, political leaders, administrators in local postsecondary educational institutions—for guidance and support. Smart leaders meeting potential supporters for the first time don't really tell them what they are going to do, as much as they ask what they should do.

Input from community leaders will inevitably reach school reformers whether they seek it or not and the sooner that information is in their hands, the easier it is to incorporate in the finished product. Even more importantly, the sooner education leaders seek community input, the more likely they are to win community support, and the greater the project's chances for success.

Encourage Leadership in Others

Including people in the process involves trusting them to exercise and develop leadership qualities themselves. According to Principal Kirchner, one of his most important tasks is to help the people around him to find their own, unique leadership strengths. "A very satisfying aspect of implementing career education programs in our school," he says, "has been to see colleagues I might not have expected to do so step up and take charge of parts of the program."

Aim for Slow, Steady Progress

Kirchner stresses the importance of patience. He notes that he first approached his school's English department several years ago with the suggestion that speech class be dropped as a required course as part of realigning the curriculum to mesh with High Schools That Work curricula.

The High Schools That Work program is a large-scale national effort promoting improvement of high school education within a framework of 10 recommended key practices, including higher standards for students and work-based learning opportunities (see "Leadership for Student Success"). Portage High School takes part in the program because of its proven track record and the clear benefits the high school has already experienced.

But the English department retained their speech class and Kirchner didn't press the issue. "Then recently," he says, "the teachers came to me with their own suggestion for dropping speech, since students are getting it in other career education classes, and adding a fourth year of English instead," says Kirchner. "I had planted that seed, but it took a while for it to come to fruition."

Focus on Long-Term Goals

When Portage High School first applied to become a High Schools That Work site in 1990, the application was rejected. This was hard on staff members who had attended High Schools That Work-sponsored training and workshops and who were eager to get involved in the program. Kirchner says that he was disappointed, but not deterred. He knew that he needed to keep staff enthusiasm and momentum high as they tried again.

"There were a number of specific actions we had to take in order to reapply," remembers Kirchner. "It would have been easy to feel overwhelmed by those details, but instead I encouraged my colleagues keep their primary focus on a long-term plan." Portage eventually reapplied and was accepted by the program. "Now," says Kirchner, "our staff probably doesn't remember the details that seemed so important at that time."

Master the Basics

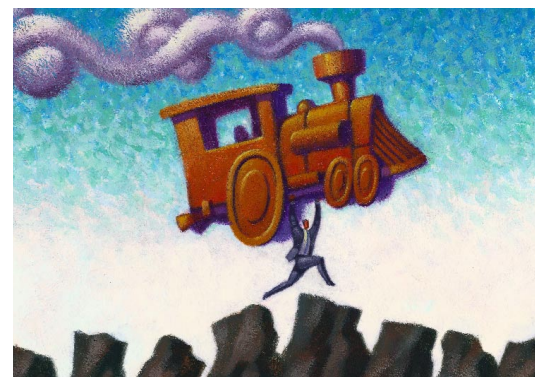
Building a focused, energized team of career majors leaders is easiest if staff members can learn by example. Master these leadership basics to show them how it's done:

- Show your own dedication and involvement in the project to demonstrate how essential it is that it succeed.
- Organize and secure resources for the project to avoid wasted time and effort.
- Deal honestly with team members and supporters in the community.
- Make clear which team members are responsible for which parts of the effort.

Know When to Make an Executive Decision

While Principal Kirchner is known for his grassroots leadership style, he says that part of his career majors implementation success comes from his willingness to make tough, independent judgment calls when necessary. In these instances, he believes, his reputation for inclusiveness serves him well.

"When it's necessary for me to call the shots on something, I think my staff respects that, because most of the time I draw others into decision making," says Kirchner.



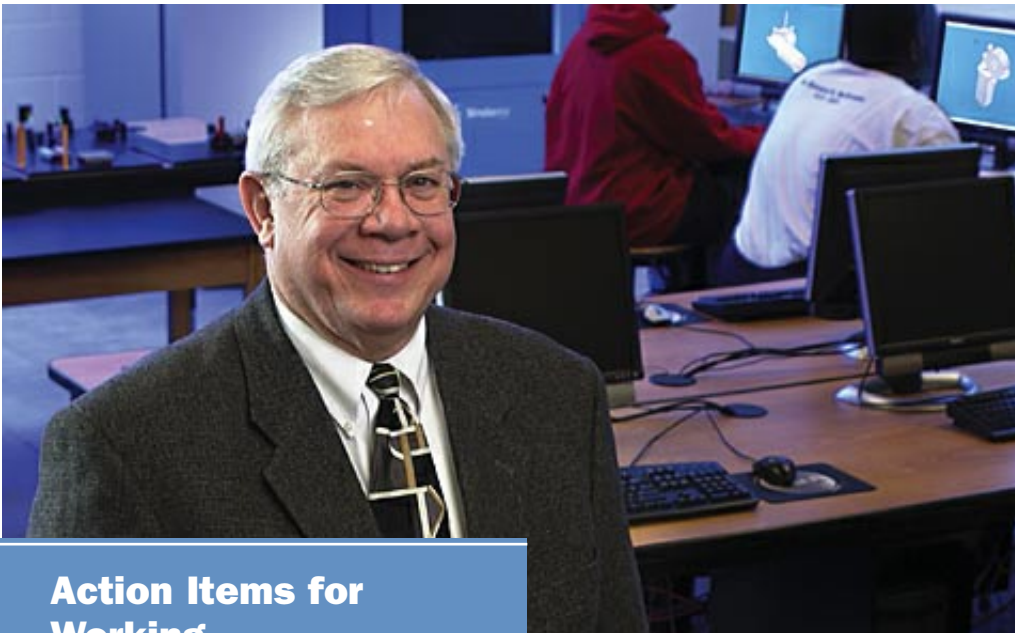
Leadership for Student Success

High Schools That Work, a proven national program for education reform, is an important element of Portage High School's successful career instruction. The program prescribes five key conditions school leaders must create for student success. They are:

- 1)** A school organizational structure ensuring continuous involvement of school administrators and teachers in strategic planning of instruction.
- 2)** Principals who support and actively participate with faculty in implementing plans for student success.
- 3)** A superintendent and school board members who support school leaders in improving their programs. This includes adequate funds for teaching materials, time for teachers' planning meetings, and six to eight days a year of staff development.
- 4)** Action by the superintendent and school board to involve postsecondary educators and employers in the design and execution of school- and work-based learning to prepare students for postsecondary education and careers.
- 5)** Support from the school board for the replacement of schools' general curriculum tracks with more demanding academic core courses together with a choice of academic or career majors.

Establish Productive Community Partnerships

Energize education with support from a broad base of community partners.



Principal Barry Norman says career programs like the top-notch computer lab at Bernard McKenzie Career Center are the direct result of effective community partnering.

the payoffs for students accrue year-round. Committee members are actively involved throughout the year in supporting the school's programs, advising faculty, and providing out-of-classroom learning opportunities for students.

Identify Potential Partners

Successful community partnership networks come in an array of different shapes and sizes, but no matter the size or scope, each requires that educators reach out to bring people into the process. The first step is identifying potential partners, which can include:

- current and former students
- parents
- local business owners
- chamber of commerce representatives
- trade union representatives
- political leaders
- social service agency representatives
- employment agency owners
- educators from postsecondary institutions.

When putting together partnerships, remain open to support from unexpected quarters. The more inclusive the partnership, the more likely it is to find creative approaches to career education.

Take the Personal Approach

When Barry Norman set out to recruit partners, he fell back on a tried-and-true sales technique. "I went door-to-door to local businesses to sell people on our school," he says. "I would explain my program, give information, and share my passion for the school. You have to be sold on what you are doing. And if you have the passion for what you are doing, it spreads throughout the community."

Action Items for Working Partnerships

- ☑ Identify potential partners.
- ☑ Work to build a diverse set of partnerships.
- ☑ Approach potential partners personally.
- ☑ Seek partners' advice and guidance before asking them for money.
- ☑ Set up an organized structure for meetings with partners.
- ☑ Pay attention to partners' needs and nurture the relationship.
- ☑ Don't press partners to give more help than they can comfortably give.
- ☑ Make it painless and convenient for partners to help out.

For students at the Bernard McKenzie Career Center in Indianapolis, career education extends beyond the classroom and throughout the local community. Internships, job shadowing, and other work-based learning experiences help give McKenzie students the kind of first-class, real-world career preparation that makes educators across the country sit up and take notice. In 1997 McKenzie was named a national demonstration site for High Schools That Work, the respected, Atlanta-based, high school reform movement.

Many factors contribute to McKenzie Career Center's success in community-based learning, but one key ingredient, says principal Barry Norman, is the extensive network of community partnerships that McKenzie has built and nurtured over the years.

Each of the school's 19 thriving career programs has an advisory committee comprised of students, parents, and business and education leaders from the community. The committees officially meet three to five times each year, but

While e-mailing or calling potential partners might seem more efficient, Norman believes educators will achieve better results if they appeal in person. Business owners, in particular, are constantly asked to contribute to various causes, so the personal approach helps prevent a school's career program needs from getting lost in the pile of requests.

Ask for Advice First, Not Money

Norman believes the key to attracting partners is to initially ask for advice, not financial support. "Make it clear that you need their help to build a great program," he says. "People are eager to participate when they know they can pass on their knowledge and expertise to help students. We ask them to come to just one meeting or come to the school and see the great things that are happening there. If they are interested, then they can stay and help us. If not, then they are under no obligation to return."

Once partners are sold on the school, asking for financial help—in the form of scholarships or funding for new equipment, for example—is easier. Keep in mind that the goal is to build a lasting relationship that will pay continuous dividends far more valuable over time than a one-time financial contribution.

Be Organized

Simply bringing a group of community leaders together does not guarantee a successful partnership. "We provide a clear agenda for each advisory committee," Norman says, "and that helps focus the members' efforts and increases their overall effectiveness."

At the McKenzie Career Center, teachers use the first advisory committee meeting of the year to introduce the school and their career program and outline their goals for the year. After this opening presentation, the teachers ask their community partners for specific assistance in meeting students' immediate needs. For example, partners could be asked to suggest field trip destinations that could help students better understand complex processes or applications. Or teachers could ask for fund raising suggestions to help students pay for national certification testing.

Providing partners with the teacher's goals for the program and a few specific student needs helps the committee develop a clearer vision of what is expected and what each member can offer. After the initial meeting, committee members can then network with their own business and community contacts to promote the school's career programs and garner additional support.

Nurture Relationships

Setting up advisory committees or partnerships is only the first step. Nurturing these relationships and handling any problems that arise is an ongoing commitment.

At McKenzie, the lead teacher for each career program facilitates advisory committee meetings and is the liaison between committee members and the school. "I or one of my assistants try to attend each meeting," Norman says, "and I always review meeting minutes to stay updated on the committees' progress."

Avoid Burnout

People interested in partnering with McKenzie Career Center are asked to commit to a three-year relationship with the school. Actual service on advisory committees, however, lasts only one year. "We don't want to burn anyone out," explains Norman. "Plus by having people rotating off and on the committee each year, there is always a fresh supply of energy and ideas."

Norman is quick to add that he appreciates those community members who have asked to remain on advisory committees for more than a year. Indeed, McKenzie's success in building long-term partnerships is remarkable. Norman estimates that about a dozen partners have served on advisory committees the entire 25 years he has been school principal.

"When you take the time to explain to the community what career education means to all of us," Norman explains, "when you personally invite them to be part of your school, then they believe in you and what you are doing. They see the connection between the students and the community and they don't want to leave."

Let's Do Lunch

Partnering with schools should be painless, says Barry Norman, principal of Bernard McKenzie Career Center in Indianapolis. "Making meetings as convenient and efficiently run as possible will help attract and retain partners," he advises.

Finding a convenient time and place to hold the center's advisory committee meetings can present a problem for busy students, parents, educators, and businesspeople. While night meetings may work best for some groups, Norman has found that scheduling lunch meetings at the school itself is often the best option.

"Everyone has to eat lunch and what better place than at your school?" he says. "Holding the meeting at school enables students to participate and gives your partners a chance to tour the building, meet the students and teachers, and see firsthand what the needs are and what you are doing." Many of the Bernard McKenzie Career Center advisory committees meet for lunch at Bernie's Place, the school's own student-run restaurant.

"Survey your committees," Norman advises, "and find out what locations and times work best for them. These are busy people who want to help. Don't waste their time. You need these people to build the best program you can for your students."



Seek Financial Support

Mount an organized, thorough, creative fund-raising effort set up career majors.



◀ At Northwest High School, says career specialist Julie Dutcher (left), involving staff in fund-raising increased support for the career majors program.

Action Items for Productive Fund-raising

- ✓ Research all possible sources of support.
- ✓ Consider grants not expressly targeted at career majors.
- ✓ Enlist business support.
- ✓ Use intermediary organizations to solicit business aid.
- ✓ Consider establishing a tax-exempt fund-raising foundation.
- ✓ Assess the school's needs before seeking support.
- ✓ Involve staff in the fund-raising effort.
- ✓ Put structures in place to manage grant requirements.

At Northwest High School, an urban school with 1,600 students located in Indianapolis, 2003 will be remembered as a very big year for career majors implementation.

"We launched our career academies in the fall of 2003," explains Julie Dutcher, Northwest's career specialist. "We have four up and running now, and the system is built around Indiana's state-recognized career clusters."

Dutcher is enthusiastic about the role she has played in raising funds for the career academies. "I've learned a lot about grants in the past three years," she says with a laugh. "We've had important successes, but there has been a definite learning curve."

Think Creatively

For one thing, Dutcher learned that there is more than one way to skin a cat. "Not all money for career education programs has to come from funding sources specifically targeting career education," she notes.

For example, the grant enabling the launch of Northwest's career majors system came from the federal Smaller

Learning Community program.

"Northwest's system groups career clusters in three academies," Dutcher says. A fourth academy serves Northwest's ninth graders. Freshmen enter the academy for a year of regular instruction and intensive career exploration. "The academy allows them to explore their options," says Dutcher, "and at the end of the year they select one of the other three academies to enter in their sophomore year."

Smaller Learning Community grants are targeted at large high schools that set up smaller, more personalized learning communities, just like Northwest's academies, to serve their students. The federal program's purpose is to boost student performance by promoting more effective learning environments, but it dovetails nicely with the concept of smaller career academies.

The \$100,000 Tech Prep grant recently awarded to Northwest by the state Department of Workforce Development has been dedicated to creating professional support of the system. "We used the grant to finance creation of a sustainable, effective professional development program for our staff," Dutcher explains, "a complete program, not just a series of workshops."

"We needed to get more tools into teachers' toolboxes. In some cases you're asking teachers to change the way they've taught for 20 years, and you have to help them make the transition."

Seek Business Help

The business community is another important source of financial support for education reform efforts. Ongoing relationships with local businesses can result in useful business guidance on program and curriculum design and increased work-based learning opportunities for students. The more

involvement a career majors program has with businesses, the better its chances of leveraging the relationship for significant financial support as well.

Business involvement in fund-raising can be institutionalized in several ways. One tactic is to mobilize business supporters to set up fund-raising foundations under section 501(c)(3) of the federal tax code, which exempts such efforts from federal taxes.

Another approach is to set up regional non-profit intermediary organizations that serve as brokers for school fund-raising. Instead of expecting overworked teachers and administrators to take on education fund-raising, the task is handed to an independent third-party organization that can serve as a middleman between the worlds of business and education.



Assess Needs Early On

Whether a school system is after federal grant money or business support, it is important to determine the system's current needs and resources before applying for additional financing.

"Going after money before surveying what you really need is putting the cart before the horse," Dutcher explains. "Grants tend to be very targeted, so a needs assessment gives you a clearer idea of what money you should go after."

Dutcher stresses that a needs assessment should also establish what money is already available within a school and a district.

"I've seen schools applying for federal

grant money without being aware that their own district or state has similar money already available," says Dutcher. "You can end up wasting time and resources."

Use a Team Approach

While many schools and school districts rely on professional grant writers—either in-house or freelance—to undertake the often arduous task of identifying and applying for grants, Dutcher believes that involving classroom educators in grant-writing has its benefits.

She says that at Northwest, any educator who has an interest in the grant money for which the school is applying can "get their hands into it" by working on the application directly or in a consulting capacity. When staff members have a stake in raising money for a particular initiative, they are more likely to buy into the project once it's launched.

Dutcher says staff members are also better prepared to put the project in motion because they had been required to thoroughly analyze how it would work in the grant writing stage.

Prepare for Accountability

Dutcher says one lesson she has learned "the hard way" is that the accountability and compliance requirements of most grants bear careful scrutiny before the application process begins.

"It's important to be very, very clear on what a grant will require of educators before applying. Sometimes, even the RFP [request for proposal] for a grant doesn't spell out all the things that will be required of schools awarded the funds," says Dutcher. "For this reason, I often call the funder and ask for additional information before we apply."

If a grant's requirements look too onerous, Dutcher says, schools should do a cost-benefit analysis to determine if the grant is worth it. If a decision is made to apply, she says that Northwest begins putting the structure in place to meet the grant's requirements even before they get a yes or no answer to their application.

"Then," says Dutcher, "if we are awarded the grant we can hit the ground running."

Grants for Career Majors Implementation

Many Indiana schools have been successful in winning funding for career majors-related programs. Often they have found success by applying for grants not explicitly targeted for career majors programming. Here are a few programs that could support career majors efforts:

Bill and Melinda Gates Foundation

www.earlycolleges.org

The Bill and Melinda Gates Foundation, in partnership with Carnegie Corporation of New York, the Ford Foundation, and the W.K. Kellogg Foundation, has invested more than \$50 million to support the Early College High School Initiative. Under the innovative concept, students begin college work in their junior and senior years of high school, enabling them to earn up to two years of college credit as they work toward their high school diplomas.

Citigroup Foundation

www.citigroup.com/citigroup/corporate/foundation/index.htm

Many of this foundation's educational grants are designed to support use of new learning technologies in grades K-12, particularly for schools in low- and moderate-income neighborhoods.

Internet Innovator Awards

www.nsawards.com

National Semiconductor's Internet Innovator Awards program rewards teachers who are using the Internet in fresh, new ways in the classroom to improve student learning. Winning teachers receive \$10,000 personal awards—no strings attached—and their schools receive between \$15,000 and \$20,000 to fund teacher training and development.

Arthur Vining Davis Grants

www.jvm.com/davis/PROGRAMS.HTM#secondary

These grants are made to innovative professional development programs that strengthen teaching in grades 9-12. The program particularly seeks to encourage development partnerships between secondary and postsecondary institutions.

Create Career-Oriented Curricula

Reorient curricula to prepare students for academic and career success.



◀ Robert Steele (second from left), director of Pike High's science and engineering academy, oversees students perfecting their entry in an annual robotics competition.

Action Items for Curriculum Development

- ☑ Reorganize curriculum around a career majors framework.
- ☑ Create new classes as needed, but ground instruction in all classes in a career context.
- ☑ Involve teachers directly in curriculum development.
- ☑ Encourage faculty sharing of curriculum ideas.
- ☑ Be responsive to student needs.
- ☑ Make curriculum development a flexible, ongoing process.
- ☑ Seek community input and fit curricula with community-based learning opportunities.
- ☑ Work to align curricula with instruction at two- and four-year colleges.

Pike High School in Indianapolis is known for innovation among educators across the state. Marilyn Metzler, director of C4 Career Center in Columbus (see “Set Up Seamless Articulation” on page 20), describes Pike High as “wall-to-wall career academies,” and that’s not far from the truth.

In August 2002, Pike opened the doors to six new career academies, following the launch of its Freshman Academy a year earlier. Meaghan Argay, who came on board as director of Pike’s academy system in 2001, says the entire school has been reorganized around the career academy framework. “We launched the Freshman Academy and then we had a year before we went live with the other academies,” she says.

Setting up academies at Pike entailed attention to every aspect of career majors systems, but reorganizing curriculum around a career framework was at the very heart of the process.

Build on a Career Majors Framework

Instruction at Pike now revolves around the workings of its career academies. The academy system groups teachers and

students in smaller schools-within-the-school based on career interests. Students enter the Freshman Academy in ninth grade, orient themselves to workings of the academy system, learn as much as they can about different career pathways and their own career interests, and then pick an academy for career preparation through the remainder of their high school years.

The most significant changes in curriculum required by the academy system are not so much in the content of courses as in the context in which they are taught. The career academy system means all material, even core English, math, science, and social science, is now taught in the context of acquiring skills needed for successful careers.

“For example,” says Argay, “Students have always read Hamlet. But in our Judicial and Global Studies Academy (JAGS), which includes preparation for legal careers, we’ve had practicing attorneys come in and demonstrate courtroom closing arguments and what they entail. Then the students who had read the play wrote closing arguments for a ‘trial’ of Hamlet. The arguments, either for the defense or the prosecution, were based on ‘evidence’ in the play, making the case for Hamlet’s acquittal or conviction on the charges of murder of the people he killed onstage.”

Give Curriculum a Career “Flavor”

At Pike, says Argay, they call this reworking of curriculum in a career context “flavoring.”

“The curriculum stays the same,” she says, “in the sense that we are still required to meet Indiana’s state standards. We still meet the standards but we’ve ‘flavored’ them, given them a career twist. All students still read Hamlet and The Scarlet Letter, but what they do with them has a different focus

depending on the particular academy."

Cal Ewing, academy director for the JAGS Academy, says the academy structure is conducive to creative curriculum development because it encourages teachers to compare notes. "Each academy is in its own part of the building," he explains, "so teachers teaching different subjects in the academy, be it math, English, or social studies, are right next to each other. Our teachers observe other disciplines and ask themselves, 'How can I tie that to my curriculum?'"

Involve Teachers

Pike asks its teachers to make a formal commitment to the development of career curricula. "Teachers develop lesson plans," Argay says, "one per semester, and at their academy meetings they share these lessons with their peers as a professional learning community. We also keep them in a three-ring binder accessible to the entire faculty for future reference. That way new ideas are shared across the system."

"We do a lot of modeling at Pike. We try to cultivate curriculum experts within the school and ask them to share what they're doing with others." The system institutionalizes curriculum development as an ongoing process.

Connect with the Real World

Pike also uses project-based learning (PBL) to focus instruction on real-world career applications. "PBL helps make curriculum relevant to real life," Argay says. PBL focuses on applying learning in the execution of a specific project, usually carried out by a group of students, often out of the classroom in a work-based setting.

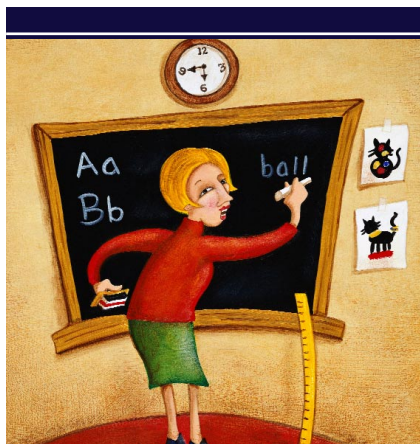
"Before teachers lectured and then gave pencil-and-paper tests of students' ability to feed back the material," Argay says. "With PBL teachers give students the basics of knowledge, the skills, and ask students to apply them in a practical manner. PBL shifts the focus to an practical use of knowledge outside the school, and the success of the project becomes the test of whether the students have mastered the skill."

Such a fundamental shift in curriculum can require significant realignment of

teachers' skills, says Evelyn Gearries, assistant principal of curriculum development. "All of our professional in-service days for the last year were spent on project-based learning. Some teachers took a while getting used to it. Now teachers from other schools are visiting us and we get to highlight our teachers using PBL in their academies. That boosts their sense of professionalism."

Be Responsive

Argay believes an important measure of the success of the new system at Pike will be its flexibility. Once implemented, curricula should not be set in stone. "We've already added advance placement classes and more career-oriented classes. We've found that once the students know what careers they are interested in, they want to go deeper."



Career instruction should be in tune with the needs of local businesses and with coursework in local two- and four-year colleges as well. Pike plans to set up advisory committees for each academy including members of the community to help keep curriculum in synch with opportunities for work-based projects. The high school has already moved to align curricula with postsecondary instruction, increasing advanced placement offerings from 19 to 37.

Argay advises a dynamic approach to curriculum development. "Our mission is to ensure that every student that walks through our doors finds success. We're living this mission every day and are shaking up 'what has always been' with 'what is best for our students.'"

Career Academies Complement Career Majors

Indiana has made a commitment to encourage development of career academies such as those at Pike High in Indianapolis. The Department of Workforce Development is backing that commitment with grants to high schools supporting the establishment of academies.

At this writing seven of 20 total high schools, including Pike High, have received up to \$100,000 in grant funds for implementation of career majors and are actively developing career academy systems. The remaining 13 schools are designated planning sites and will receive money for implementation if their planning goes well.

According to the National Career Academy Coalition, a grassroots career academy advocacy group headquartered in Pennsylvania, numerous studies have found that students in career academies perform better in high school and are more likely to continue on to higher education than students in traditional high schools.

Career academies have been found to support and complement career majors implementation and quality instruction in general through a variety of core elements, including:

- a small learning community, composed of a group of students within the larger high school, who take classes together for at least two years and are taught by a team of teachers from different disciplines
- a college preparatory curriculum with a career theme, enabling students to grasp relationships among academic subjects and their application to the world of work
- partnerships with employers, the community, and local colleges, bringing resources from outside the high school to improve student motivation and achievement.

Build a Career Guidance System

Reorganize guidance to drive career majors implementation.

At first glance, William W. Borden Junior/Senior High School in Borden is not the place one would expect to find an innovative career guidance model. The small rural high school just north of Louisville, Kentucky, is home to only 275 students in grades 7–12 and a single

guidance counselor, Charlie Jackson.

Through actively seeking advice and assistance from the Indiana Department of Workforce Development, area schools, and the community, however, Jackson has helped Borden become a pioneer in the effort to refocus guidance on career

which will motivate them to be successful in school and enable them to reach their goals after graduation.”

Start with Grade Schoolers

The career planning process should begin in elementary school. Borden has developed a career majors handbook, used in grades K–12, which enables students to focus on career goals and identify related high school courses as they plan careers.

“By the time they reach Borden in seventh grade, students already have some exposure to careers,” explains Jackson. “From seventh through 12th grades we build on that base, adding more and more information, requirements, and learning opportunities each year.”

At Borden that means an emphasis on career exploration in seventh grade, including one semester of career education and completion of a career assessment. In eighth grade, every student takes a semester of career development, completes an aptitude assessment, and tours an area technical school, a community college, and a four-year college.

“In eighth grade,” adds Jackson, “students start getting the big picture of what educational options are available after high school and what job opportunities exist. We talk about high-skill, high-wage, high-demand professions. We provide them with the information they need to start mapping out a career plan.”

Create Career Education Plans

Helping students stay on course as they navigate their way through high school is the goal of the four-year plan (some Indiana schools use five- or six-year plans). The plan is a document in which a student selects a career major and lays out a program of study through high school. Five and six-year plans extend the process through the first one or two years after graduation to a four-year college, two-year college, apprenticeship, the military, or employment.

Each student’s four-year plan typically includes:

Action Items for Career-Focused Guidance

- ☒ Target every student in the system.
- ☒ Begin career education in the elementary grades.
- ☒ Help students create career education plans.
- ☒ Involve parents in the planning process.
- ☒ Review and update plans with students each year.
- ☒ Help students arrange work-based learning opportunities.
- ☒ Provide professional development for counselors.
- ☒ Reach out to the community for support of the career majors system.



▲ Charlie Jackson (left), school counselor at Borden Junior/Senior High, discusses career options with Willice Baker and his mother Linda.

majors. In 2000 the school’s efforts were honored by Planning for Life, a national guidance recognition program sponsored by the U.S. Army.

Reach Out to Every Student

“Everything I have tried won’t work at every school,” Jackson acknowledges, “but the bottom line remains the same—the career guidance program has to involve all students. Each student is important. It doesn’t matter if a student is academic honors at the top of the class or near the bottom and struggling to make Core 40 (see ‘Raise the Bar to Core 40’).

“Our goal as school counselors has to be to bring each one to their highest level of achievement possible. We do that by connecting students with a career major,

- extracurricular activities and hobbies
- choice of career cluster and career major
- results of career interest inventories and aptitude tests
- proposed class schedules
- standardized test scores
- post-graduation goals
- work-based learning experiences
- awards and certificates earned.

Stay Flexible

While eighth graders at Borden are generally well equipped by their earlier career exploration to make preliminary career major choices, Jackson stresses that it is essential to maintain flexibility in career education planning. "Students select a career major based on their aptitudes and interests, but these things may change as they grow and explore different subjects and careers," he says.

At Borden, students review their plans at least once a year. In a system dedicated to giving students control of their futures, it is important to avoid locking them in to one path. The system must allow students to explore new options and, in consultation with parents and counselors, change directions if necessary.



Facilitate Work-Based Learning

Successful career guidance programs help students blend classroom study with hands-on learning experiences. Today's school counselors are often responsible for facilitating job shadowing and career days; finding part-time work opportunities; inviting speakers to make career presentations; and arranging off-site visits to area businesses,

industries, and schools.

At Borden, Jackson has helped initiate both in-school and off-site career skill-building opportunities for students. For example, all eighth grade students must take a keyboarding class, taught by the school's career academy of finance, which includes job shadowing in a local business. And the Laser Technology Program, launched by Jackson in 1997, gives students in-school business experience creating wooden blinds, award plaques, and other products for clients around the globe.

Offer Professional Development

With career majors systems demanding that counselors play roles ranging from student confidant to small-time entrepreneur, Jackson says professional development is required. Schools must help counselors adapt to new responsibilities.

"When I got out of college," Jackson remembers, "we were called guidance counselors and we helped students with personal, school, and social issues. Now the focus is on career development. That's a big change and I know I never could have made the switch without professional development. Attending workshops, visiting other schools, and learning how we could use what they have done here at Borden has made the transition possible for us."

Include Everyone in the Process

"Any size school can accomplish what we have here," says Jackson. "Successful career guidance takes input from the whole school and the whole community." Teachers in academies become part of the career counseling process. Parents are more involved in education as they help students revise career plans each year. Energized programs reach out to other educational institutions to broaden student options.

"We have four students this year going into an aviation program thanks to partnerships with the nearby Prosser School of Technology and Shawnee High School in Louisville," Jackson says. "For us to be such a small school and be able to connect with flight training and aviation mechanics is remarkable. There is no way we, by ourselves, could offer our students all of the opportunities we do now. We knew we needed help and we went out and got it—through grants, through professional development, and through partnerships."

Raise the Bar to Core 40

Educators at Borden Junior/Senior High School believe career education should and does represent a step up for students and that's why the school insists on top-notch academic standards for its career program. The state's Core 40 curriculum standards, required for admission to Indiana's public universities, offer a handy way to keep student achievement high.

A Borden educational partnership allows 11th and 12th grade students interested in technical careers to attend classes at Prosser School of Technology, a technical school of 1,300 students in nearby New Albany. While most students excelled at Prosser's hands-on training when the program began, school counselor Charlie Jackson noticed that some of the students' grades and motivation tailed off once they returned to Borden.

"Some students really love the atmosphere of the technical school and are not as engaged by the typical classroom style of learning. But every student in a career major needs to maintain the highest academic standards possible in order to graduate and succeed beyond graduation," explains Jackson.

To help motivate students who are alternating between hands-on training and classroom instruction, Borden High now requires that everyone who attends Prosser be an Indiana Core 40 student. Now, in addition to preparing themselves for technical employment, they will have qualified for college admission. Beginning in 2004, Borden will begin administering end-of-course assessments of students in some Core 40 courses. The testing, designed to document student mastery, fulfills in part requirements of Indiana's School Accountability System.

Promote Professional Development

Organize resources to reorient faculty and staff to career majors systems



Action Items for Staff Development

- ✓ Find creative ways to reorient faculty to career majors.
- ✓ Train educators in-house as well as sending them to off-site conferences.
- ✓ Arrange schedules to cover for teachers in training.
- ✓ Make a solid financial commitment to professional development.
- ✓ Tap business partnerships to provide resources including business-based teacher internships.
- ✓ Make sure all staff have mastered the material they are asked to teach.
- ✓ Provide career advancement and financial rewards to motivate staff to participate in professional development.
- ✓ Motivate staff by keeping them aware of and focused on the benefits of career majors.

When Logansport High School required all its students to take at least two career classes at the adjoining Century Career Center, it was a shot in the arm for professional development at the center.

A classic case of “build it and they will come,” the new career center facility opened its doors in Logansport in August 2002. Enrollment mushroomed from around 350 in 2001-2002 to 900 in 2003-2004. “The two-credit requirement has changed everything,” says Century’s director Stephen Hagen. “The community fully supports it and the students look forward to the classes, even the academic students. The old stigma of vocational education is gone.”

Hagen admits the new requirement has put new pressures on the center. “Some of these new students coming in require advanced levels of technical instruction,” Hagen says. “It’s forced us to adjust the material we offer in our classes.” That means taking professional development to a new level to provide career education that matches the full spectrum of student interests and abilities.

The center is rising to the challenge.

▲ Century Career Center director Stephen Hagen (center) and Century faculty examine a laser-based surveying level used by construction technology students at the center.

Century now offers career instruction in eight “schools-within-the-school.” Each school is dedicated to a different set of career majors and draws students from Logansport High as well as five other area schools. “We offer some professional development for our faculty onsite at the center,” Hagen says, “some offsite, some at workshops out of state. It’s a very dynamic situation. Things are changing and growing from day to day and we have to make sure we keep up.”

Find Creative Solutions

Hagen, whose dedication to career education led the Indiana Association of Area Vocational Districts to name him Director of the Year for 2002-2003, has found creative ways to drive professional development in-house. Century Center pays members of its academic and career and technical staffs to team up to devise lesson plans. “The exercise results in career-oriented lesson plans that everyone at the center can use,” Hagen says, “but

it also gives faculty a first-hand cooperative experience that effectively reorients them to a career education approach.

"For example, we had a building trades teacher and a social studies teacher put together a lab on the Great Depression. It is a construction project and students have to consider how people managed to complete such work within the severe economic constraints of the Depression."

The lab teaches basic history, brings it alive by placing it in the context of a real-life problem, and advances instruction in a specific modern career. Century is applying this approach in all core subjects. "We are bringing staff members together throughout the center," says Hagen, "to find new ways to teach the core course standards—math, science, social studies, and language arts."

Commit Money and Set Aside Time

"We are using a Career Majors/Tech Prep grant from the Department of Workforce Development to pay the faculty for these efforts," Hagen explains. "The money helps tremendously and we couldn't have made the progress we have without it."

At Century, Hagen says, the Career Majors/Tech Prep grant served as the primer needed to set professional development in motion. To sustain the effort, it was necessary to make time available as well. "You have to set up a schedule that allows the teachers to get together," he says. "People need dedicated time to work on the lesson plans. We've established an schedule for next year to provide the coverage we need for people working on development."

Get Teachers Up to Standard

Hagen emphasizes that the Century lesson plans are quite involved and require some effort to put together. "It takes time to organize something like the Great Depression construction lab. The teachers need to develop an understanding of contextual learning and they have to have mastered the base knowledge—the math, science, or language arts. If they don't have mastery we have to provide off-site professional development to get them up to standard."

"It works both ways, too. Some of the academic teachers have never worked outside a school, and they need to learn more about real-world jobs. We've set up internships for teachers with local

businesses and we've arranged for them to get college credit for their efforts. We intend to do more of this in the future."

Find New Ways to Reward Teachers

Rewarding teacher participation in professional development is an important key to its success. To motivate teachers across the board administrators should tap as many resources as possible. Sources for incentives might include:

- Local business partners willing to set up grants for teacher work-study sabbaticals.
- In-house career advancement rewarding completion of professional development with promotion and salary benefits.
- Partnerships with postsecondary institutions in which professional development training at a college earns credit toward an advanced degree.



Keep Their Eyes on the Prize

Hagen says intangible motivations can be as important as things like pay and career advancement. He believes motivating professional development requires keeping faculty focused on the larger reasons for career education. "Visionary leadership is critical. Someone, or some group of people, has to hold tightly on to the vision and keep that vision alive for everyone in the school."

"It's important to pay attention to details but you have to be tuned to the big picture as well, or it all seems like mumbo-jumbo. People in education tend to dismiss reform as 'just the latest fad.' To get something to happen, somebody has to make it clear that career majors make a difference in students' lives."

Log On to IWEB

The Indiana Educators' Home at www.indiana.edu/~iweb is a professional development Web site organized by Indiana University at Bloomington for the use of K-12 educators in Indiana.

The site lets teachers access the IWEB (Indiana Will Educate Better) Network, a professional organization of Indiana educators linked by the World Wide Web who share their experiences and knowledge with other educators around the state. IWEB offers teachers the opportunity to communicate by e-mail or electronic forums with other educators regarding career education, lesson plans, or any of a host of other professional development issues. IWEB serves as an electronic professional development conference that educators can attend whenever and wherever they want, limited only by access to the Internet.

IWEB also provides training in the use of the Internet, including creating Web pages, finding Web design sources, and using search engines. Joining IWEB is simply a matter of subscribing at no charge to one or more of the e-mail discussion groups or contributing to an electronic forum. Teachers sharing career majors success stories see them added to the network's teaching resources.

High school teachers can subscribe to e-mail lists in subjects such as English, math, science, vocational ed, guidance, media, and many more. Links connect users with lesson plan sites, information on curriculum design, and the School of Education Helpline at Indiana University.

(Hitting the site's "Back Home" button returns users to the Indiana Educators' Home page; the site's authors recommend, but don't require, that users whistle "Back Home in Indiana" as they do so.)

Develop Extended Learning Opportunities

Give students a wide range of opportunities to learn outside the classroom.



◀ Dr. Michael Schatzlein, CEO of Dupont Hospital in Fort Wayne, chats with Leo High School student intern Andrea [tk] at the medical center.

Action Items for Extended Learning Opportunities

- ☑ Build extended learning partnerships with local businesses.
- ☑ Develop a wide variety of extended learning opportunities.
- ☑ Offer work-based learning within the school.
- ☑ Involve middle schoolers in extended learning.
- ☑ Use work portfolios to track students' extended learning.
- ☑ Match work opportunities with students' interests.
- ☑ Let students change work arrangements as their interests change.

In the world of career majors education, the phrase “extended learning opportunities” generally refers to career learning experiences that take place outside the classroom, such as internships, cooperative education, service learning, and job shadowing. At Leo Junior/Senior High School, a suburban school near Fort Wayne serving over 1,000 students in grades 7–12, principal Mark Daniel has expanded his school’s definition for extended learning opportunities in ways that are enriching students’ educations in all grades.

“To my mind, extended learning opportunities means that we have opportunities extending beyond the traditional out-of-school internship for older teens,” explains Daniel. “We extend these opportunities to each and every one of our students, including middle schoolers and freshmen.”

Establish a Career Focus

The first step in extending learning opportunities (also commonly called work-

based learning) is to establish a firm focus on career education. Leo boasts a longstanding commitment to career education and the structures and procedures to carry out that commitment. The school’s Career Development Center is the heart of the school’s career focus, helping students plan career coursework, providing a wealth of career planning resources, and administering an extensive program of work-based learning in the local community.

About one-sixth of the school’s juniors and seniors spend half of each school day working in local banks, day care centers, law offices, hospitals, transmission shops, factories, small businesses, and larger enterprises, taking the important first steps of lifelong career journeys.

Start Early

According to Daniel, his school’s ability to connect with students as early as seventh grade sets the stage for later success in out-of-classroom learning and, eventually, in future careers. The same approach, of course, can be carried out by any district in its middle schools.

“We offer all seventh graders a ‘modular career tech’ curriculum,” says Daniel, “that allows them to rotate through 16 ‘career stations,’ based loosely on Indiana’s career cluster pathways. By the time they get to ninth grade, these students have engaged in serious career exploration.”

Like almost all Indiana freshmen, the ninth graders at Leo take a 12-week career class, in which assessment tools, guest lecturers, and career educators guide them in further career exploration. Unlike most other Indiana freshmen, however, ninth graders at Leo can begin taking advantage of extended learning opportunities designed specifically for younger students.

“Many internships and similar programs

are not available until a student's junior or senior year," says Daniel. "We wanted to offer these opportunities to our freshmen and sophomores in age-appropriate ways, allowing them to take 'baby steps' in extended learning."

Use In-House Resources

The simplest way to extend learning opportunities to younger students is to take advantage of the occupations carried out right on their home campus, Daniel realized. Freshmen and sophomores at Leo were allowed to apply for "in-house" internships with the school's faculty and staff. Although the more than 150 students who now participate never leave the school building, they get the full internship or job shadowing experience by working directly with a school employee mentor.

"If a younger student is interested in teaching or a particular teacher's subject area, he or she can intern with a teacher," explains Daniel. "We have students interested in careers in athletics who are interning with our coaches and students interested in grounds management and landscaping working with our custodians."

"One of the neatest opportunities we offer is through our school's copy center," says Daniel. "The copy center is run almost entirely by students interested in business technology. The students learn real job skills, but more importantly for our younger students, they learn important 'soft skills' like punctuality, team work, and politeness."

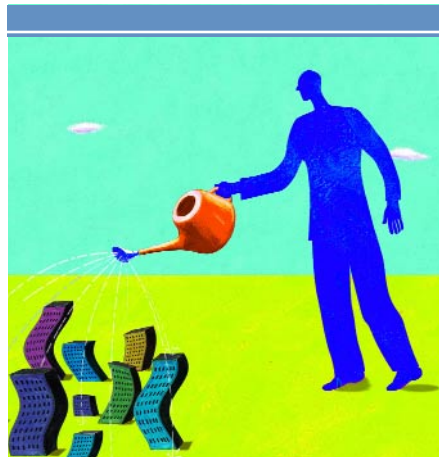
Offer Many Choices

School districts would do well to emulate the sheer variety of choices available to students at Leo. In addition to internships and job shadowing, other work-based learning possibilities include:

- cooperative education, in which work in a particular business is coordinated with related instruction in the classroom
- service learning, in which students do volunteer work with charitable community agencies
- mentoring, in which students learn job and life skills from an assigned mentor in the world of work
- apprenticeships, in which students enter a particular job, master the skills involved, and receive specific certification of the skills mastered.

Cultivate Local Connections

Establishing and maintaining educational partnerships with local businesses makes sense in a number of ways. The local economy almost always offers learning opportunities not available in school-based internships. For students who very likely will begin their careers locally, extended learning provides an opportunity to learn what kinds of jobs are available in the community and to make early career connections that could be useful later.



Daniel says Leo's impressive collection of local business contacts, ranging from interior decorators to transmission shops, evolved naturally from the complementary needs of schools and businesses. Leo's first important business connection was with General Electric Industrial Systems in nearby Fort Wayne. A job shadowing day organized to expose 11th graders from Leo to occupations at G.E. resulted in internships for some students, and has evolved over the years into a standing internship program at G.E.

"Another major partner," Daniel says, "Dupont Hospital, places student interns and also makes significant contributions to our health classes. Instructors from the hospital come in and give free CPR [cardiopulmonary resuscitation] classes. Students receive Red Cross certification and can take refresher courses in their junior year."

"The hospital also teaches community awareness courses on healthcare occupations for parents of our students. They are looking for people to fill open jobs, nurses, radiation technicians, in the face of national shortages, so they have a strong motivation to get involved. Our students can be part of their future."

Chart Students' Progress

At Leo Junior/Senior High School, each student's extended learning is tracked as carefully as learning in the classroom. Starting as seventh graders, Leo students assemble "career portfolios" documenting all out-of-classroom learning experiences, everything from in-school mentoring for freshmen to paid internships as high school seniors.

In some career cluster programs, portfolios include class work and extracurricular activities and are direct outgrowths of career planning. Ninth graders in these programs draw up individual graduation plans (IGPs) outlining classes for each of their high school years as well as plans for postsecondary education and then track their career education as it progresses. Each year students review and revise their IGPs in light of their experiences and changing interests. The resulting portfolios can become the basis for resumes when students enter the job market in earnest.

Leo principal Mark Daniel says that he is particularly proud of a Leo graduate who had a career portfolio documenting her extensive extended learning experiences in the medical field. Even though the student's grades and standardized test scores were not necessarily high enough to gain her admittance to medical school, her portfolio made the difference; she has been guaranteed admittance to an Indiana medical school as long as she keeps her college grades up.

"Our career portfolios are something that students, parents, and teachers use to chart a student's career interests and skills acquisition over time, and it allows us to see how far a student has come," says Daniel. "We hope that this helps students understand that most people's careers do go in cycles as their needs and interests evolve. We want them to be comfortable with the idea that this is a lifelong process that never ends."

Set Up Seamless Articulation

Negotiate agreements to smooth students' pathways to postsecondary education.



Action Items for Establishing Articulation Agreements

- ✓ Research and identify potential local articulation partners.
- ✓ Consider articulation with industry training programs.
- ✓ Assemble all the right people for effective articulation negotiations.
- ✓ Use skills certifications to help students move to the next education level.
- ✓ Take advantage of competency-based instruction to facilitate articulation.
- ✓ Work toward establishing comprehensive systems of articulation.
- ✓ Update articulation agreements regularly.
- ✓ Set up standing committees to coordinate curricula between institutions.

◀ Karla Hewitt, dental student at C4 career center in Columbus. Articulation at C4, including a comprehensive dental assisting agreement, lets students like Karla make smooth transitions to postsecondary study.

the career center's wide network of articulation gives students to zip effortlessly to higher levels of education and from there to the world of work.

"We are dedicated to setting up articulation or certification programs for every one of the clusters and pathways we offer at C4," Metzler explains. She says this dedication has paid off for students. "Our dental assisting program represents the Cadillac of articulation agreements. It's the only dental assisting program at the high school level in the country accredited by the America Dental Association. Students can earn 33 Ivy Tech State College credits right here at C4."

C4's dental assisting agreement with Ivy Tech, Indiana's 23-campus technical college system, is the kind of arrangement that enables students to realize the promises of career training in high school. Articulation agreements like this between and among secondary and postsecondary institutions remove the bureaucratic obstacles that can block students' paths to ultimate career success.

By allowing students to earn postsecondary credit for equivalent high school work, articulation means students can avoid wasting time and money repeating material that they have already mastered. Articulation opens up seamless pathways to success by streamlining the educational links between institutions at different levels.

Make the Two-Year Connection

"I think the community colleges are a key focal point for effective career cluster articulation," says Metzler. "A large portion of the population are now choosing to go to community colleges, often for economic reasons, often for convenience. That's the place to start building articulation agreements."

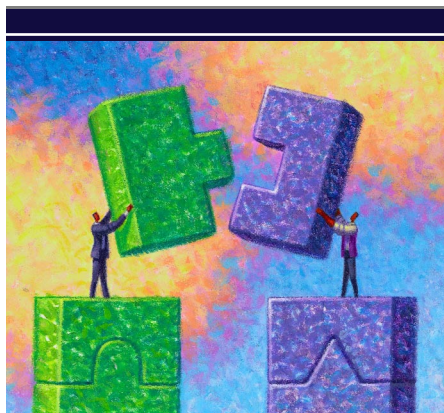
To get started on constructing two-year

C4, the Columbus Area Career Connection, serves some 2,450 students from 11 schools in four southern Indiana counties (Bartholomew, Brown, Jackson, and Decatur) with first-class academic and career education. Instruction is organized around nine career clusters, with more than 300 students involved in work-based learning in local businesses.

Director Marilyn Metzler says a key element of C4's success is the opportunity

agreements, research local two-year schools and establish an overview of their course offerings. Find out the names and positions of the people in charge of course content and talk to them about sitting down with curriculum experts on the high school side. Assess training programs in business and industry, as well as academic programs, for potential articulation.

In addition, look into articulation agreements already in place between two-year and four-year colleges. That will help determine how profitable a particular connection to a two-year institution might be. "When you connect to a two-year college," says Metzler, "very often that school becomes the vehicle for articulation on to the four-year level."



Find the Right Players

Metzler says successful articulation can depend to a surprising degree on the personalities involved in negotiation of details. "If a particular professor leaves a two-year college and a new instructor comes in with a different syllabus, that can mean you have to revisit the articulation agreement for that particular course."

Setting up articulation means face-to-face negotiation between the people on both sides best informed about the content of the courses in question. The goal is to determine exactly how the material in courses taught at different institutions might overlap and how to deal with the duplication of effort. The solution might take several forms:

- dual or concurrent enrollment, in which students take some courses at the college and some at the high school
- a menu of equivalent courses specifying college credit earned for taking particular high school courses

- acceptance by higher level institutions of high school portfolios or certificates of skill mastery in place of traditional credit for classroom work.

Offer Certifications

Metzler says C4 has found that skill certifications can help students clear higher education hurdles in much the same way as articulation. Following training in particular skills, students demonstrate their mastery of the skills and are certified by regional, state, or national organizations. C4 offers national, industry-sponsored certifications in a number of areas, including auto body repair, finance, and transportation, as well as the state's Certificates of Technical Achievement in six areas.

"Often certifications allow students to waive entrance exam requirements or achieve appropriate placement," Metzler explains. "Without testing out of classes, for example, a student can begin with the 103 course at college rather than the 100."

Build Comprehensive Agreements

It is important to take articulation as high as possible up the education ladder. As Metzler points out, agreements reached with two-year institutions can automatically connect students with agreements that clear pathways to study at the four-year level. Those vertical links should be created and cultivated wherever possible.

The ultimate goal is a comprehensive system, linking secondary school with postsecondary colleges at the two-year and four-year level, as well as with industry training programs. Such agreements across a metropolitan area, a region, or even an entire state maximize flexibility and opportunity for every student in the system.

Fine-Tune the System

"It's good to review articulation agreements on an annual basis," Metzler advises. "Technology changes, economic needs change, faculty at institutions change, and you need to reflect all such changes in existing articulation agreements."

Some systems set up standing committees that regularly update articulation agreements, as well as coordinating all curriculum development. These groups can be very useful in monitoring complex, multilevel articulation agreements.

Streamline Articulation with CBI

Competency-based instruction, or CBI, is C4 director Marilyn Metzler's secret weapon in setting up articulation agreements with postsecondary institutions. Metzler says the system of instruction used in all classes at C4 career center in Columbus makes articulation of class credit a breeze. "It's one of the best tools available for articulation," she says.

What makes CBI so easy to articulate and such a great fit with career majors systems in general is the way it measures student progress. CBI focuses on the mastery of specifically defined skills. It tests mastery by requiring that students demonstrate competency. Rather than just passing a paper-and-pencil assessment of known facts, students must show what they can do.

The natural connections of CBI with career majors education are obvious. The context of education is not learning disembodied facts, but acquiring real-world skills. Knowledge is important, but it's important because it supports the performance of skills. The ultimate goal for students in cluster systems is personal and professional success, and CBI delivers the skills needed to build rewarding lives.

Because CBI is grounded in the real world, says Metzler, it simplifies articulation. It is easy to get a handle on course content. When setting up articulation, particularly with another skills-oriented institution, such as a two-year technical college, it's almost immediately clear whether and how two courses overlap.

"It's easy to lay the content of two CBI courses out next to each other and find the common threads," Metzler says. "Everything is very clear and easy to understand."

Resource Roundup

Check these useful resources for information to help guide career major implementation.



General Career Resources

Association for Career and Technical Education (ACTE)

www.acteonline.org
1410 King Street
Alexandria, VA 22314
703-683-3111 or 800-826-9972
fax: 703-683-7424

ACTE is the largest national association dedicated to career education. The association advances this mission through publications, teacher resources, professional development activities, and public policy initiatives.

Classroom Inc.

www.classroominc.org
245 Fifth Avenue, 20th floor
New York, NY 10016
212-545-8400
fax: 212-481-7178

Classroom Inc. is a non-profit organization that develops workplace simulation and learning software for middle and high school students. These simulations include jobs in media, community development, and healthcare. In addition, the organization provides professional development for teachers who wish to use the software in the classroom.

Council of Chief State School Officers

www.ccsso.org
1 Massachusetts Avenue NW, Suite 700
Washington, DC 20001-1431
202-336-7000

A professional organization of state school officials, the Council of Chief State School Officers conducts and publishes education research, including studies of career education.

Indiana Career Clusters

icpac.indiana.edu/careers/clusters/index.xml

Indiana organizes its career education efforts around 14 career clusters. The 14 Indiana clusters are profiled in detail here, with descriptions of careers, prospects for employment, and pay for specific occupations outlined in each of the clusters.

Indiana Department of Education

www.doe.state.in.us
Room 229
State House
Indianapolis, IN 46204
317-232-6610
fax 317-232-8004

The Department of Education website presents news on education in Indiana, information on education reform, a directory of department staff, links to data for individual schools and their websites, and more.

Indiana Department of Workforce Development

www.in.gov/dwd
Indiana Government Center South
10 North Avenue
Indianapolis, IN 46204
1-888-WORKONE

Indiana's Department of Workforce Development helps youth and adults prepare for employment and employers recruit the workers they need. The department's website features information on Indiana career majors for educators, students, parents, and business leaders.

INEWS

(Indiana's New Economy Workforce Statistics)

www.in.gov/dwd/inews/lmi.asp

The INEWS database provides local workforce information—including occupations in high demand, wages, and job projections—for Indiana counties, cities, and regions.

IWEB (Indiana Will Educate Better) Network

www.indiana.edu/~iweb

This professional development website for Indiana educators offers teachers the opportunity to communicate by e-mail or electronic forums with other educators regarding career education, lesson plans, curriculum design, and other issues related to career majors

National Institute for Work and Learning, Academy for Educational Development

www.niwl.org
1825 Connecticut Avenue NW
Washington, DC 20009
202-884-8000
fax: 202-884-8400
e-mail: NIWL@aed.org

This organization conducts research and provides technical assistance for work-related education reform.

O*NET

(Occupational Information Network)

online.onetcenter.org

O*NET, also available in schools and libraries, provides occupational information including compensation, employment prospects, and skill matching for students. Pay for different occupations is presented on a state-by-state basis.

School-to-Career Transition Systems: Implementation Guide

www.ceee.gwu.edu/school-to-career.pdf

Though somewhat dated, this useful guide outlines steps for implementation of career education systems clearly and concisely.

States' Career Cluster Initiative

www.careercluster.org

1500 W. Seventh Avenue

Stillwater, OK 74074

405-743-6850

fax: 405-743-5142

e-mail: pstac@okcareertech.org

This organization has published brochures as well as knowledge and skills structures (catalogs of knowledge and skills required for different occupations) for each of the 16 federally defined career clusters. Both sets of publications are available online at the organization's website.

U.S. Department of Education

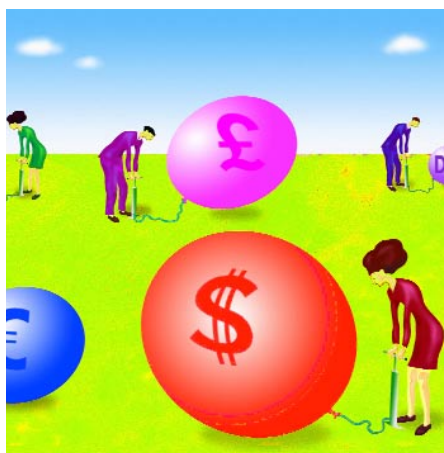
www.ed.gov

The U.S. Department of Education website presents volumes of information on all aspects of education.

U.S. Department of Labor Occupational Outlook Handbook

www.bls.gov/oco

The premiere national occupational information resource details responsibilities, earnings, working conditions, and job prospects for careers across the economy.



Funding Sources

The Federal Carl D. Perkins Act of 1998

www.ed.gov/offices/OVAE/CTE/perkins.html

Perkins Act funds help support vocational-technical education. Learn more about this important source of funding here.

The Foundation Center

www.fdncenter.org

The website of the nation's leading authority on philanthropy allows visitors to identify and research private sources of education funding.

Grants and Contracts

www.ed.gov/fund

This site provides links to full information on the more than \$35 billion distributed each year by the federal government to support education in the states.

Magnet Schools

www.ed.gov/programs/magnet

Federal magnet school programs aim to reduce minority group isolation in the schools and have been used to fund innovative career education programs in inner city schools. Learn how magnet school grants work here.

Smaller Learning Communities

www.ed.gov/programs/slcp

Federal Smaller Learning Communities grants are frequently used to fund career majors academies (see "Develop Career-Oriented Curricula" on page 12). Learn more about the program here.



Career Guidance

Career Guidance and Counseling

www.ed.gov/policy/sectech/guid/cte/guidance.html

This U.S. Department of Education page is filled with a variety of useful career guidance and counseling links.



Featured Career Majors Programs

Bernard McKenzie Career Center, Indianapolis

(page 8)

www.msdl.k12.in.us/msdl/mckenzie

Borden Junior/Senior High School, Borden

(page 14)

www.borden.wclark.k12.in.us

Century Career Center, Logansport

(page 16)

ccc.lcsc.k12.in.us

C4, Columbus

(page 20)

www.c4.k12.in.us

Leo Junior/Senior High School, Leo

(page 18)

www.eacs.k12.in.us/secure/lhs/FinishLogin.html

Northwest High School, Indianapolis

(page 10)

www.723.ips.k12.in.us

Pike High School, Indianapolis

(page 12)

www.pike.k12.in.us/phs

Portage High School, Portage

(page 6)

www.portage.k12.in.us/schools/phsweb

Glossary

Demystify the workings of career majors with these helpful definitions.

Apprenticeship: a program that offers students a course of study that integrates academic curricula and work experience, usually under the supervision of a mentor, leading to mastery of a particular occupation.

Articulation agreements: formal agreements between or among educational organizations (high schools, technical colleges, four-year colleges, and universities) that align courses and career majors from one educational institution to another in a way that facilitates a systematic, seamless student transition without loss of course credit or time for the student.

Career academy: a group of students, teachers, counselors, and staff organized as a “school-within-a-school” to pursue instruction in the context of a particular career major or group of related majors. Indiana has made a significant commitment to the organization of career academies in the state’s schools.

Career clusters: specific occupational groups (for example, Engineering, Science, and Technology or Health Services) that encompass a number of related career majors. The career majors system pursues education in the context of different career options available to students (see Indiana’s Career Majors). Indiana recognizes 14 career clusters.

Career education plan: a personal education plan drafted by Indiana students in the eighth grade and generally covering education through high school graduation (some schools’ plans extend into the first and second years of postsecondary education). The plan reflects the student’s career goals, interests, and talents and is reviewed and updated annually.

Certificates of Technical Achievement: credentials awarded by the Indiana Department of Workforce Development to students and others for

skills demonstrated in particular technical fields. Certificates of Technical Achievement represent proof of mastered skills that can be presented to potential employers anywhere, giving the bearer an edge in the search for employment.

Cooperative education: work-based learning featuring agreements between schools and employers to provide paid on-the-job training that relates to areas of study in school and that is based on objectives jointly developed by the schools and employers.

Core 40: a course of high school study required for admission to four-year Indiana colleges. Students may graduate with a standard diploma, a Core 40 diploma, or an Academic Honors diploma, each requiring completion of progressively more rigorous levels of study.

Curriculum: a fixed group of studies required to achieve an educational goal.

Dual credit: credit given at both the high school and college level by allowing students to simultaneously earn credit toward a high school diploma and a postsecondary degree or certificate.

Extended learning experiences: work site-based, out-of-classroom learning experiences that include job shadowing, internships, and service learning; also called work-based learning.

High Schools That Work: successful national initiative that stresses high academic and career and technology education standards based on 10 key practices, including high expectations for students, extra help, and work-based learning opportunities.

Indiana’s Career Majors: an educational initiative underway in Indiana to organize instruction around specific groups of occupations. Career majors offer students core academics, course work related to specific occupations, and

work-based learning experiences that match their skills and interests.

Integrated curriculum: the teaching of academic and career or technical subject matter, commonly offered in separate courses, in a manner that emphasizes relationships between the disciplines. Integrated curriculum may take many forms, ranging from the simple introduction of academics into traditional technical courses to comprehensive programs that organize all instruction around career major themes.

Internship: a one-on-one relationship for hands-on learning lasting several months during which the student works after school three or four hours a week under the guidance and supervision of a mentor/employer.

Job shadowing: a short-term experience to introduce a student to a particular job by pairing the student with a worker. The student follows or “shadows” the worker for a specified time in order to reach a better understanding of the requirements of a particular occupation.

Professional development: training and informational sessions for administrators, educators, and educational support staff that help them stay informed about current trends, issues, and best practices in their respective fields.

Student portfolio: a collection of student work indicating progress made in subjects, activities, or programs; in career majors systems, portfolios can be used to assess student performance in out-of-classroom learning experiences.

Work-based learning: work site-based, out-of-classroom learning experiences that include job shadowing, internships, cooperative education, and service learning. See extended learning experiences.

Striving to Reach New Heights

Indiana business and academic partners praise career majors academies.

"We know that career majors can energize curriculum and connect schools in northeast Indiana. Students coming to college are better prepared, more focused, and ready to seize the opportunity to use the applied work-based learning experiences they've acquired. Students from career majors schools are striving to reach new heights."

—Dawn BonAmi
Director Academic Affairs Support
Ivy Tech State College-Northeast
Fort Wayne

"Our overall experience with the McKenzie Career Center internship program [in Indianapolis] has been excellent. The students have added a fresh level of excitement and enthusiasm to our organization and performed valuable work at a very reasonable cost. It also affords us an opportunity to build goodwill in the community, look at future employment candidates, and provide feedback to the school system on the skill sets we believe to be important. This is an excellent program."

—Chuck McCarley
Manufacturing Engineering Manager
Battery Engineering Center
Delphi Corporation
Indianapolis

"Century Career Center [in Logansport] offers the most focused and relevant professional development opportunities for all high school staff, especially in relation to career majors, that I have seen in my career."

—Dr. Jerry T. Thacker
Superintendent of Schools
Logansport Community School Corporation
Logansport

"Academy students [from Indianapolis' Pike High School] connect real world experiences to the academic field of their choice. When students are connected, they are successful learners and engaged community members."

—Elaine Eilers
Metropolitan School District of Pike Township
Board of Education Member
Indianapolis

"Student interns from Academy of Finance programs help businesses improve. They are able to perform entry level assignments effectively because of the financial services knowledge they gain in high school. This frees up other employees for higher level assignments. In addition, the industry benefits because . . . [businesses meet] potential future employees."

—Cathe Gibson,
Chair, Academy of Finance of Central Indiana
Retired Vice President, Charles Schwab & Co. Inc.
Indianapolis

This document was developed using funds authorized under the U.S. Department of Labor Workforce Investment Act, Section 503, 20 CFR 6666.200.

Indiana Career Majors in Action © 2004
Indiana Department of Workforce Development.
Produced by Laine Communications (www.lainecom.com).

Rigor and Relevance

Excellence that makes a difference — that's the goal of the Indiana Career Majors initiative. It's no more than Indiana students deserve from their schools. In career academies now operating in high schools across the state, this reform movement is organizing education in smaller, thematic schools-within-a-school dedicated to academic and career success.

At stake is Indiana's ability to field a workforce that can compete with the best the world has to offer. By delivering instruction in a career context, the academies give students a personal motivation to achieve. By helping students set personal benchmarks for success, Indiana Career Majors help them build futures that enrich their lives—and promote the economic well-being of all of our citizens

To learn more about career majors and education reform in Indiana, visit www.in.gov/dwd/education/stw.



▲ Caption caption caption caption cacomment tk caption caption caption caption caption caption.

▼ Caption caption caption caption cacomment tk caption caption caption caption caption caption.

